

IN THE CLAIMS:

1. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material, which comprises ~~copper~~ or a first copper alloy having at least an unmelted phase, and ~~aluminum~~ or a first aluminum ~~ally~~ alloy having at least a melted phase, formed by flame-spraying an aluminum-alloy powder and a copper alloy powder, wherein said first copper alloy comprises 40% by weight or less of Pb, and said first aluminum comprises from 10 to 60% by weight of Si.

2. (Currently amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 1, wherein said first copper alloy comprises a second copper alloy, which is formed by incorporating ~~said aluminum~~ or a component of the first aluminum alloy into the first copper alloy, by flame-spraying.

3. (Currently amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 2, wherein said first aluminum alloy comprises a second aluminum alloy, which is formed by incorporating ~~said copper~~ or a component of the first copper alloy into the first aluminum alloy, by flame-spraying.

4. (Currently amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claims 2 or 3, characterized in that the main structure consists of the unmelted phase of the copper or the first copper alloy and the melted phase of aluminum or the second aluminum alloy.

5. (Currently amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 4, wherein said flame-sprayed layer surface comprises at least either of the melted phase of copper or the first copper alloy and the melted phase of the first aluminum alloy.

6. (Canceled).

7. (Canceled).

8. (Currently amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim [[7]] 1, characterized in that said first copper alloy contains from 0.5 to 50% by weight of one or more selected from the group consisting of 30% by weight or less of Sn, 0.5% by weight or less of P, 15% by weight or less of Al, 10% by weight or less of Ag, 5% by weight or less of Mn, 5% by weight or less of Cr, 20% by weight or less of Ni, and 30% by weight or less of Zn.

9. (Currently amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim [[7]] 1, characterized in that said first aluminum alloy further comprises 30% by weight or less of Sn.

10. (Currently amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim [[7]] 1, characterized in that said first aluminum alloy further comprises at least one element of the group consisting of 7.0% by weight or less of Cu, 5.0% by weight or less of Mg, 1.5% by weight or less of Mn, 1.5% by weight or less of Fe, 8% by weight or less of Cr, and 8.0% by weight or less of Ni.

11. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 10, characterized in that said first aluminum alloy further comprises 30% by weight or less of Sn.

12. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 8, characterized in that said first aluminum alloy further comprises 30% by weight or less of Sn.

13. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 8, characterized in that

said first aluminum alloy further comprises at least one element of the group consisting of 7.0% by weight or less of Cu, 5.0% by weight or less of Mg, 1.5% by weight or less of Mn, 1.5% by weight or less of Fe, 8% by weight or less of Cr, and 8.0% by weight or less of Ni.

14. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 13, characterized in that said first aluminum alloy further comprises 30% by weight or less of Sn.

15. (Currently amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim [[7]] 1, characterized in that the entire composition is Cu: 8-82% by weight, Al: 5-50% by weight, Pb: 32% by weight or less, and Si: 5-50% by weight.

16. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 8, characterized in that the entire composition is Cu: 8-82% by weight, Al: 5-50% by weight, Pb: 32% by weight or less, Si: 5-50% by weight, Sn: 24% by weight or less, P: 0.4% by weight or less, Ag: 8% by weight or less; Mn: 4% by weight or less, Cr: 4% by weight or less, Ni: 16% by weight or less, and Zn: 24% by weight or less.

17. (Currently Amended): A sliding layer of a sliding member, consisting of flame-

sprayed copper-aluminum composite material according to claim 9, characterized in that the entire composition is Cu: 8-82% by weight, Al: 5-50% by weight, Pb: 32% by weight or less, Si: 5-50% by weight, and Sn: 21% by weight or less.

18. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 10, characterized in that the entire composition is Al: 15-50% by weight, Cu: 8-50% by weight, Pb: 32% by weight or less, Si: 5-50% by weight, Mn: 1.2% by weight or less, Cr: 5% by weight or less, Ni: 4% by weight or less, Mg: 4.0% by weight or less, and Fe: 1.2% by weight or less.

19: (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 11, characterized in that the entire composition is Al: 15-50% by weight, Cu: 8-50% by weight, Pb: 32% by weight or less, Si: 5-50% by weight, Sn: 24% by weight or less, Mn: 1.2% by weight or less, Cr: 5% by weight or less, Ni: 4% by weight or less, Mg: 4.0% by weight or less, and Fe: 1.2% by weight or less.

20. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 12, characterized in that the entire composition is Al: 15-50% by weight, Cu: 8-50% by weight or less, Pb: 32% by weight or less, Si: 5-50% by weight, Sn: 30% by weight or less, Mn: 4% by weight or less,

Cr: 4% by weight or less, Ni: 16% by weight or less, and Zn: 24% by weight or less.

21. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 13, characterized in that the entire composition is Al: 15-50% by weight, Cu: 8-50% by weight, Pb: 32% by weight or less, Si: 5-50% by weight, Sn: 24% by weight or less, P: 0.4% by weight or less, Ag: 8% by weight or less, Mn: 5% by weight or less, Cr: 8% by weight or less, Ni: 20% by weight or less, Zn: 24% by weight or less, Mg: 4.0% by weight or less, and Fe: 1% by weight or less.

22. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 14, characterized in that the entire composition is Al: 15-50% by weight, Cu: 8-50% by weight, Pb: 32% by weight or less, Si: 5-50% by weight, Sn: 30% by weight or less, P: 0.4% by weight or less, Ag: 8% by weight or less, Mn: 5% by weight or less, Cr: 8% by weight or less, Ni: 20% by weight or less, Zn: 24% by weight or less, Mg: 4.0% by weight or less, and Fe: 1% by weight or less.

23. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 3, wherein at least a portion of said first copper alloy, consists of Cu crystals, and at least a portion of said first

aluminum alloy, consists of Al crystals.

24. (Currently amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim [[6]] 1, characterized by further containing 30% by weight or less of graphite particles.

25. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 1, characterized by further containing 30% by weight or less of one or more selected from the group consisting of Al_2O_3 , SiO_2 , SiC , ZrO_2 , Si_3N_4 , BN , AlN , TiN , TiC , B_4C , iron-phosphorus compounds, iron-boron compounds, and iron-nitrogen compounds.

26. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 1, wherein it is laminated on a substrate and is coated with a metal layer which is softer than the substrate.

27. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum material according to claim 26, wherein said soft metal layer is a plating layer of Pb, Pb alloy, Sn or Sn alloy.

28. (Currently Amended): A sliding layer of a sliding member, consisting of flame-

sprayed copper-aluminum material according to claim 26, wherein said soft metal layer is a plating layer mainly consisting of Pb and Sn.

29. (Currently Amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum material according to claim 2 or 3, characterized in that said flame-sprayed surface layer is coated with a film, which comprises MoS₂ or graphite or a mixture of MoS₂ and graphite.

30. (Currently Amended): A method for producing a sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material, comprising flame-spraying material containing powder of copper or copper alloy and powder of aluminum or aluminum alloy such that a portion of these powders is melted and a portion is not melted.

31. (Canceled).

32. (Currently amended): A method of producing a sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 30 ~~or 34~~, wherein said copper alloy is Cu-Pb based alloy, and said aluminum alloy is Al-Si based alloy.

33. (Currently amended): A method for producing a sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 30 ~~or 31~~, wherein 30% by weight or less of graphite powder is mixed with the material prior to flame-spraying.

34. (Currently amended): A method for producing a sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 30 ~~or 31~~, wherein 30% by weight or less of one or more selected from the group consisting of Al_2O_3 , SiO_2 , SiC , ZrO_2 , Si_3N_4 , BN , AlN , TiN , TiC , B_4C , iron-phosphorus compounds, iron-boron compounds, and iron-nitrogen compounds is mixed with the material prior to flame-spraying.

35. (Currently amended): A method for producing a sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 30 ~~or 31~~, wherein the flame spraying is carried out on a surface of a metallic substrate, the surface of the metallic substrate having been roughened to RZ 10-60 μm or more prior to flame spraying.

36. (Currently amended): A method for producing a sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material according to claim 30 ~~or 31~~, wherein heat treatment of the flame-sprayed layer is carried out subsequent

to the flame spraying.

37. (Currently amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material, which consists of copper or a first copper alloy having at least an unmelted phase, and aluminum or a first aluminum alloy having at least a melted phase.

38. (Currently amended): A sliding layer of a sliding member, consisting of flame-sprayed copper-aluminum composite material, which consists of copper or a first copper alloy having at least an unmelted phase, and aluminum or a first aluminum alloy having at least a melted phase, formed by flame-spraying an aluminum-alloy powder and a copper alloy powder.